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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/804,766

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Toshie Imai

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7590  
Peter B. Martine  
Martine & Penilla, LLP  
Suite 170  
710 Lakeway Drive  
Sunnyvale, CA 94085

05/29/2008

EXAMINER

KHAN, USMAN A

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/804,766	<b>Applicant(s)</b> IMAI, TOSHIE	
	<b>Examiner</b> USMAN KHAN	<b>Art Unit</b> 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8, 11-13, 15-22, 25-27 and 29 is/are pending in the application.
- 4a) Of the above claim(s) 2-8, 12, 13, 16-22, 26 and 27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 15, 25 and 29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05/09/2008 has been entered.

### ***Response to Arguments***

Applicant's arguments filed on 05/09/2008 with respect to claims 1, 11, 15, 25, and 29 have been considered but are moot in view of the new ground(s) of rejection.

Regarding objection to claims 10 – 11 and 24 – 25 provided in the previous office action. Applicant has canceled claims 10 and 24 and amended claims 11 and 25 to overcome the rejection to claims 10 - 11 and 24 - 25.

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The information disclosure statements (IDS) submitted on 3/17/2008 and 05/09/2008 have been considered by the examiner. The submissions are in compliance with the provisions of 37 CFR 1.97. All of the references are considered in the IDS.

### ***Claim Objection***

**Claim 1** is objected to because of the following informalities: In the claim line 13 should read -- similarity between the pixel value histogram and a predetermined reference histogram, and --. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 15, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue (US patent No. 6,097,836) in view of Horikami (US patent No. 5,263,098).

Regarding **claim 1**, Inoue teaches an image processing device for processing an image using image data generated by an image generating device (column 3 line 38 et seq. the image processing system with captured images is used as an indication image data of light source colors and snowy scenery), and image generation record

information that is associated with the image data and that includes operation information for the image generating device at the time that the image data is generated (column 3 line 38 *et seq.* image processing system using a variety of characteristics such as RGB and other image data of the input image for correction of backlight), the image processing device comprising:

a judging section configured to execute a backlight decision as to whether or not to execute backlight adjustment processing, based on both the image generation record information and the image data (column 3 line 38 *et seq.* the captured image is used as an indication image data of light source colors and snowy scenery and image processing system using a variety of characteristics such as RGB and other image data of the input image for correction of backlight), the judging section performing

(i) a first judgment to decide whether or not the image generation record information negates necessity of the backlight adjustment processing (column 3 line 38 *et seq.* image processing system using a variety of characteristics such as RGB and other image data of the input image for correction of backlight if needed), and

(ii) a second judgment, in case the image generation record information does not negate the necessity of the backlight adjustment processing in the first judgment, to decide based on a pixel value histogram of the image data whether or not to execute the backlight adjustment processing (column 13 line 47 column 14 line 6, column 16 lines 7 – 23, and column 17 lines 41 – 53, histogram created from captured image used for correcting backlight brightness/shadow), and the judging section calculating a degree of similarity between the pixel value histogram a predetermined reference value

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(column 4 lines 3 – 7, column 6 lines 53 – 64, column 5 lines 48 – 55, and figure 13 LUT uses reference values which are values of correction and compares it to the captures image with histogram as taught in column 5 lines 48 – 55, column 13 line 47 column 14 line 6, column 16 lines 7 – 23, and column 17 lines 41 – 53, histogram created from captured image used for correcting backlight; note the LUT can be considered a predetermined histogram because the LUT values are matched with the input histogram values for backlight correction), and making the second judgment according to the degree of similarity (column 6 lines 53 – 64); and

an image quality adjuster that, in case it is decided to execute the backlight adjustment processing, executes backlight adjustment processing to increase brightness value of at least some pixels in the image data (column 6 lines 37 – 65 and column 7 lines 47 – 55).

However Inoue fails to teach that the predetermined reference value is a predetermined reference histogram.

Horikami, on the other hand teaches that the predetermined reference value is a predetermined reference histogram.

More specifically, Horikami teaches that predetermined reference value is a predetermined reference histogram (column 6 lines 37 - 45).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the teachings of Horikami with the teachings of Inoue because as stated in column 1 line 67 – column 3 line 3 Horikami teaches that the use of the reference histogram makes it easier to compare and easily and reliably determine

areas of an image hence replacing the LUT of Inoue with the reference LUT will improve the invention of Inoue by incorporating the benefits of Horikami invention.

Regarding **claim 15**, Inoue teaches a method of processing an image using image data generated by an image generating device (column 3 line 38 *et seq.* the image processing system with captured images is used as an indication image data of light source colors and snowy scenery), and image generation record information that is associated with the image data and that includes operation information for the image generating device at the time that the image data is generated (column 3 line 38 *et seq.* image processing system using a variety of characteristics such as RGB and other image data of the input image for correction of backlight), the method comprising:

executing a backlight decision as to whether or not to execute backlight adjustment processing, based on both the image generation record information and the image data (column 3 line 38 *et seq.* the captured image is used as an indication image data of light source colors and snowy scenery and image processing system using a variety of characteristics such as RGB and other image data of the input image for correction of backlight), the executing of the backlight decision including

(i) performing a first judgment to decide whether or not the image generation record information negates necessity of the backlight adjustment processing (column 3 line 38 *et seq.* image processing system using a variety of characteristics such as RGB and other image data of the input image for correction of backlight if needed); and

(ii) performing a second judgment, in case the image generation record information does not negate the necessity of the backlight adjustment processing in the first judgment, to decide based on a pixel value histogram of the image data whether or not to execute the backlight adjustment processing (column 13 line 47 column 14 line 6, column 16 lines 7 – 23, and column 17 lines 41 – 53, histogram created from captured image used for correcting backlight brightness/shadow), and the executing of the backlight decision further including calculating a degree of similarity between the pixel value histogram and a predetermined reference value (column 4 lines 3 – 7, column 6 lines 53 – 64, column 5 lines 48 – 55, and figure 13 LUT uses reference values which are values of correction and compares it to the captures image with histogram as taught in column 5 lines 48 – 55, column 13 line 47 column 14 line 6, column 16 lines 7 – 23, and column 17 lines 41 – 53, histogram created from captured image used for correcting backlight; note the LUT can be considered a predetermined histogram because the LUT values are matched with the input histogram values for backlight correction), and making the second judgment according to the degree of similarity (column 6 lines 53 – 64); and

in case it is decided to execute the backlight adjustment processing, executing backlight adjustment processing to increase brightness value of at least some pixels in the image data (column 6 lines 37 – 65 and column 7 lines 47 – 55).

However Inoue fails to teach that the predetermined reference value is a predetermined reference histogram.



Horikami, on the other hand teaches that the predetermined reference value is a predetermined reference histogram.

More specifically, Horikami teaches that predetermined reference value is a predetermined reference histogram (column 6 lines 37 - 45).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the teachings of Horikami with the teachings of Inoue because as stated in column 1 line 67 – column 3 line 3 Horikami teaches that the use of the reference histogram makes it easier to compare and easily and reliably determine areas of an image hence replacing the LUT of Inoue with the reference LUT will improve the invention of Inoue by incorporating the benefits of Horikami invention.

Regarding **claim 29**, Inoue teaches a computer-readable storage medium encoded with a computer program (column 5 lines 17 – 20), the computer program comprising:

a first program causing a computer to execute a backlight decision as to whether or not to execute backlight adjustment processing, based on both the image generation record information and the image data (column 3 line 38 *et seq.* the captured image is used as an indication image data of light source colors and snowy scenery and image processing system using a variety of characteristics such as RGB and other image data of the input image for correction of backlight), the first program causing the computer to perform

(i) a first judgment to decide whether or not the image generation record information negates necessity of the backlight adjustment processing (column 3 line 38 et seq. image processing system using a variety of characteristics such as RGB and other image data of the input image for correction of backlight if needed), and

(ii) a second judgment, in case the image generation record information does not negate the necessity of the backlight adjustment processing in the first judgment, to decide based on a pixel value histogram of the image data whether or not to execute the backlight adjustment processing (column 13 line 47 column 14 line 6, column 16 lines 7 – 23, and column 17 lines 41 – 53, histogram created from captured image used for correcting backlight brightness/shadow), and the first program further causing the computer to calculate a degree of similarity between the pixel value histogram and a predetermined reference value (column 4 lines 3 – 7, column 6 lines 53 – 64, column 5 lines 48 – 55, and figure 13 LUT uses reference values which are values of correction and compares it to the captures image with histogram as taught in column 5 lines 48 – 55, column 13 line 47 column 14 line 6, column 16 lines 7 – 23, and column 17 lines 41 – 53, histogram created from captured image used for correcting backlight; note the LUT can be considered a predetermined histogram because the LUT values are matched with the input histogram values for backlight correction), and to make the second judgment according to the degree of similarity (column 6 lines 53 – 64); and

a second program, in case it is decided to execute the backlight adjustment processing, causing the computer to execute backlight adjustment processing to increase brightness value of at least some pixels in the image data (column 6 lines 37 –

65 and column 7 lines 47 – 55; note first and second program can be considered portions of a program since the applicant has not claimed different programs).

However Inoue fails to teach that the predetermined reference value is a predetermined reference histogram.

Horikami, on the other hand teaches that the predetermined reference value is a predetermined reference histogram.

More specifically, Horikami teaches that predetermined reference value is a predetermined reference histogram (column 6 lines 37 - 45).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the teachings of Horikami with the teachings of Inoue because as stated in column 1 line 67 – column 3 line 3 Horikami teaches that the use of the reference histogram makes it easier to compare and easily and reliably determine areas of an image hence replacing the LUT of Inoue with the reference LUT will improve the invention of Inoue by incorporating the benefits of Horikami invention.

Claim 11 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue (US patent No. 6,097,836) in view of Horikami (US patent No. 5,263,098) in further view of Tretter (US patent No. 6,463,173).

Regarding **claim 11**, Inoue in view of Horikami teaches most of the limitations of claim 1, However Inoue in view of Horikami fails to teach that the pixel value histogram and the reference histogram each have a simplified format in which a range of pixel values is divided into a plurality of segments, and a representative pixel frequency value

is established for each segment; and the degree of similarity represents similarity of the representative pixel frequency value of each segment between the pixel value histogram and the reference histogram.

Tretter, on the other hand teaches that the pixel value histogram and the reference histogram each have a simplified format in which a range of pixel values is divided into a plurality of segments, and a representative pixel frequency value is established for each segment; and the degree of similarity represents similarity of the representative pixel frequency value of each segment between the pixel value histogram and the reference histogram.

More specifically, Tretter teaches that the pixel value histogram and the reference histogram each have a simplified format in which a range of pixel values is divided into a plurality of segments, and a representative pixel frequency value is established for each segment (figures 7 - 8 and column 3 line 59 – column 4 line 26); and the degree of similarity represents similarity of the representative pixel frequency value of each segment between the pixel value histogram and the reference histogram (figures 7 - 8 and column 3 line 59 – column 4 line 26).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the teachings of Tretter with the teachings of Inoue in view of Horikami because as stated in column 3 line 47 – column 4 line 27 Tretter teaches that the use of the dividing of the histogram into clusters for processing will result in a improved image.

Regarding **claim 25**, Inoue in view of Horikami teaches most of the limitations of claim 15, However Inoue in view of Horikami fails to teach that the pixel value histogram and the reference histogram each have a simplified format in which a range of pixel values is divided into a plurality of segments, and a representative pixel frequency value is established for each segment; and the degree of similarity represents similarity of the representative pixel frequency value of each segment between the pixel value histogram and the reference histogram.

Tretter, on the other hand teaches that the pixel value histogram and the reference histogram each have a simplified format in which a range of pixel values is divided into a plurality of segments, and a representative pixel frequency value is established for each segment; and the degree of similarity represents similarity of the representative pixel frequency value of each segment between the pixel value histogram and the reference histogram.

More specifically, Tretter teaches that the pixel value histogram and the reference histogram each have a simplified format in which a range of pixel values is divided into a plurality of segments, and a representative pixel frequency value is established for each segment (figures 7 - 8 and column 3 line 59 – column 4 line 26); and the degree of similarity represents similarity of the representative pixel frequency value of each segment between the pixel value histogram and the reference histogram (figures 7 - 8 and column 3 line 59 – column 4 line 26).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the teachings of Tretter with the teachings of Inoue in

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view of Horikami because as stated in column 3 line 47 – column 4 line 27 Tretter teaches that the use of the dividing of the histogram into clusters for processing will result in a improved image.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Usman Khan whose telephone number is (571) 270-1131. The examiner can normally be reached on Mon-Thru 6:45-4:15; Fri 6:45-3:15 or Alt. Fri off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Usman Khan/

Usman Khan  
05/27/2008  
Patent Examiner  
Art Unit 2622

/Tuan V Ho/

Primary Examiner, Art Unit 2622